USSR

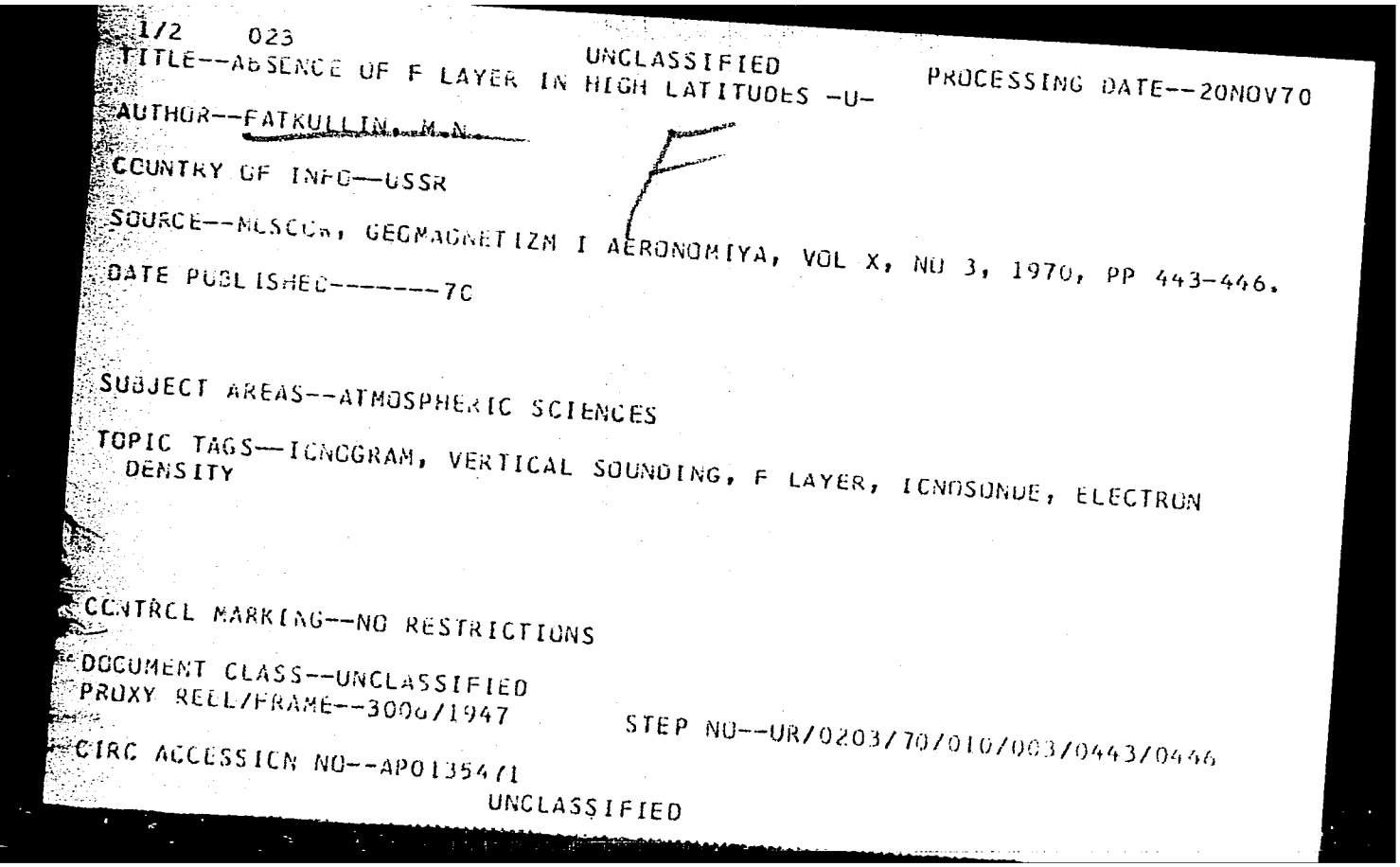
UDC 661.185.223

NAZIROVA, R. A., DZHALILOV, A. T., FATKHULLAYEV, E., and ASKAROV, M. A., Tashkent Polytechnical Institute

"Study of the Properties of Ion Exchange Membranes Based on Furance Ion Exchange Resins"

Tashkent, Uzbekskiy Khimicheskiy Zhurnal, No 6, 1973, pp 15-17

Abstract: Thermal stability of ion exchange membranes obtained from furan ion-exchange resins was investigated by means of the thermographic and thermogravimetric method. It was established that such membranes are highly stable in water -- up to its boiling point. In the air they were heat resistant up to the temperatures of 100 to 120°C.



1/2 023 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--ABSENCE OF F LAYER IN HIGH LATITUDES -U-

AUTHOR--FATKULLIN, M.N.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, GEOMAGNETIZM I AERONOMIYA, VOL X, NO 3, 1970, PP 443-446.

DATE PUBLISHED-------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES

TOPIC TAGS--IONOGRAM, VERTICAL SOUNDING, F LAYER, IONOSONDE, ELECTRON DENSITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1947 STEP NO--UR/0203/70/010/003/0443/0446

CIRC ACCESSION NO--AP0135471

UNCLASSIFIED

2/2 023 UNCLASSIFIED

CIRC ACCESSION NO--AP0135471 PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STUDY OF HIGH LATITUDE IONOGRAMS OBTAINED BY SURFACE VERTICAL SOUNDING REVEALS THAT SOMETIMES THERE ARE CASES WHEN THE TRACE CORRESPONDING TO REFLECTION FROM LEVELS ABOVE 100-120 KM IS ABSENT. IN INVESTIGATING THE F LAYER WITH LOW ELECTRON CONCENTRATIONS THE IDEAL METHOD IS IONOSPHERIC SOUNDING FROM TOPSIDE, AS WITH ALOUETTE I, WHICH CARRIED AN IONOSONDE. ABSENCE OF THE F LAYER WAS STUDIED USING DATA FROM N SUBE (H) PROFILES, SELECTING CASES WHEN THERE WAS A CONTINUOUS DECREASE IN N SUBE WITH ALTITUDE H FROM IS LESS THAN OR SIMILAR TO 150 TO SIMILAR TO 1,000 KM. FOUR PARTICULAR CASES ARE EXAMINED IN DETAIL: 10 MARCH 1963, 20 DECEMBER 1962, 22 DECEMBER 1962 AND 1 MAY 1963. THE DATA GIVEN HERE ARE ONLY AN ILLUSTRATION OF CASES WHEN A F LAYER IS ABSENT IN THE HIGH LATITUDE IONOSPHERE; THEY SHOW THE NATURE OF THE VERTICAL DISTRIBUTION OF THE ELECTRON CONCENTRATION IN SUCH CASES. FACILITY: INSTITUTE OF TERRESTRIAL MAGNETISM IONOSPHERE AND RADIO WAVE PROPAGATION.

UNCLASSIFIED

Acc. Nr: AP0046366 Ref. Code: UR0000

PRIMARY SOURCE: Razdel V, Ionosfernyye Issledovaniya, 1970, Nr 19, pp 136-174

N. P. Ben'kova, M. N. Fatkullin. Currents in non-disturbed ionosphere and their geophisical effects

The paper presents a short survey of the studied currents in the ionosphere conducted by direct and indirect methods. The paper discusses the peculiarities of space-time currents distribution, which can be discovered when analysing the outer part of the S_q-field. The rocket researches of currents in the ionosphere are analysed. The dynamomechanism of currents excitation is discussed in detail, the evaluations of currents density are carried out according to the data of ionospheric research. The influence of currents on the peculiarities of the ionosphere is considered.

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REEL/FRAME
19781531

12

1/2 031 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--THE SEASONAL ANOMALY IN THE ELECTRON DENSITY OF THE TOPSIDE F2 REGION -U-

AUTHOR--FATKULLIN, M.N.

COUNTRY OF INFO--USSR

SOURCE--J. ATMOS. TERREST. PHYS. (GB), VOL. 32, NO. 6, P. 1067-75, JUNE 1970

DATE PUBLISHED-------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, SPACE TECHNOLOGY

TOPIC TAGS--ELECTRON DENSITY, GEOGRAPHIC LATITUDE, IONOSPHERE, SEASONAL VARIATION/(U)ALOUETTE SCIENTIFIC SATELLITE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1739 STEP NO--UK/0000/70/032/006/1067/1075

CIRC ACCESSION NO--AP0133644

UNCLASSIFIED

2/2 031 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0133644

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DATA OBTAINED BY MEANS OF THE IONOSPHERIC TOPSIDE SOUNDER SATELLITE ALOUETTE-1 SHOW THAT IN THE DAYTIME THE SEASONAL ANOMALY IN THE ELECTRON CONCENTRATION EXTENDS TO HEIGHTS ABOVE H SUBM F2 IN A MANNER WHICH DEPENDS ON THE LATITUDE. IN THE NORTHERN HEMISPHERE OVER THE AMERICAN CONTINENT THE ANOMALY EXTENDS TO HEIGHTS NEAR 500 KM AT GEUGRAPHIC LATITUDES BETWEEN 46 AND 53DEGREESN. THE SEASONAL ANOMALY IN THE F2 LAYER APPEARS TO BE MAINLY DUE TO ANOMALOUS BEHAVIOR IN SUMMER. THE RESULTS OBTAINED REFER TO A PERIOD NEAR SUNSPOT MINIMUM. FACILITY: ACAD. SCI., USSR, IZMIRAN, MOSCOW.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--CURRENTS IN AN UNPERTURBED IONOSPHERE AND THEIR GEOPHYSICAL EFFECTS -U-

AUTHOR-(02)-BENKOVA, N.P., FATKULLIN, M.N.

COUNTRY OF INFO--USSR

SOURCE--IN: IONOSPHERIC STUDIES. NUMBER 19 (IONOSFERNYE ISSLEDOVANIIA. NUMBER 19). (A70-32076 15-13), MOSCOW, IZDATEL'STVO NAUKA, 1970, P.

DATE PUBLISHED-------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--ELECTRIC CURRENT, IONOSPHERE, TIME SPACE, CURRENT DENSITY, GEOPHYSICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1085 STEP NO--UR/0000/70/000/000/0136/0174

CIRC ACCESSION NO--AT0124742

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AT0124742

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REVIEW OF PUBLISHED STUDIES DEALING WITH MEASUREMENTS OF ELECTRIC CURRENTS IN THE IONOSPHERE BY DIRECT AND INDIRECT METHODS. SPECIAL ATTENTION IS GIVEN TO THE TIME SPACE DISTRIBUTION OF THE CURRENTS PRESENT IN THE OUTER PORTION OF THE SQ FIELD. THE RESULTS OF ROCKET DATA ARE ALSO CONSIDERED. THE MECHANISM OF INDUCTION OF THESE CURRENTS, THE CURRENT DENSITIES DETERMINED BY IONOSPHERIC OBSERVATIONS, AND THE EFFECTS OF CURRENTS ON THE CHARACTERISTICS OF THE IONOSPHERE ARE ALSO DISCUSSED.

UNCLASSIFIED

FATKULLIN, O. Kh.

JPRS 55579

4 May 1972

UDC 539.5

INFLUENCE OF SEMIFABRICATE-PRODUCTION TECHNOLOGY ON THE MECHANICAL CHARACTERISTICS OF HEAT-RESISTANT ALLOYS

[Article by A. F. Bulov, N. D. Bobovnikov, and O. Kh. Fatkullin (Moscow) of VILS (possibly All-Union Laboratory of Aviation Research), Kiev, Problemy Prochnosti, Russian, No 6, 1971, signed to press 20 August 1970, pp 105-109]

Changes in Engine Material Specifications in Recent Years

Progress in aviation equipment presents ever higher demands on the materials used in making engines. Materials with increased durability and heat-resistance properties are used widely in engine structures.

The departure point in developing and organizing the production of heat-resistant materials was the development of jet engines, which have replaced piston engines on aircraft. In recent years many heat-resistant alloys have been developed which permit engine operating temperature to be raised considerably.

Vacuum melting of metals has brought much progress in the area of producing deformable alloys.

The dynamics of change in engine-alloy content on various bases over a 15-year period are shown in Table 1. The

Table 1

Years	Aluminum-based alloys, %	Titanium-based alloys, %	Steels (Fe-base), %	Nickel-based alloys, %
1950	20	0	70	10
1955	3	2	65	30
1960	1	12	34	53
1965	2	11	14	50

Powder Metallurgy

USSR UDC: 669.245'26:621.762

BELOV, A. F., FATKULLIN, O. Kh., POPOV, D. S., STAROSVETSKIY, D. I., Moscow

"Degassing of Nickel-Chromium-Based Alloys Made by Powder Metallurgy Methods"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 6, 1973, pp 101-105.

Abstract: This work studies one problem in the area of improvement of processes of powder metallurgy of nickel-chromium-based alloys -- the gas content of the materials produced from various types of charge (alloyed powders and mixtures of powders of the individual alloy components), and the influence of certain technological parameters on the final gas content in the powders. The temperature dependences were produced for the liberation of gasses in a vacuum from powder materials composed of individual components and produced by atomizing, used as the charge for nickel-based alloys. The gas content of various fractions of powders produced by atomizing of a melt into water has an extreme. The extremal nature of the gas content of various powder fractions is explained by the influence of changes in the total surface of the powders and the number of pores in the particles.

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APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002200730008-9"

USSR

UDC 539.5

BELOV, A. F., BOBOVNIKOV, N. D., FATKULLIN, O. KH., Moscow. VILS (expansion unknown)

"The Influence of the Production Technology of Semifinished Products on the Mechanical Properties of Heat-Resistant Alloys"

Kiev, Problemy Prochnosti, No. 6, 1971, pp 105-109

Abstract: The critical factor in the development and organization of the production of heat-resistant materials was the development of jet engines, which replaced piston engines on aircraft. Considerable progress in the field of the production of deformable alloys has been made due to the introduction of the vacuum melting of metal. Vacuum melting is an important stage in improving the properties of heat-resistant alloys. One of the basic factors limiting the operating capacity of an engine is the quality of the turbine disks. Up to 1962, turbine disks in the USSR had been produced from open-melted metal, and this process had many drawbacks. A radical change took place with the introduction, in 1962, of the vacuum arc remelting process, which resulted in metal of improved quality with high and stable mechanical properties. At present there has been developed a basically new technique for obtaining nickel-based heat-resistant alloys in which the

USSR

BELOV, A. F., et al., Problemy Prochnosti, No 6, 1971, pp 105-109

defects of the duplex process are eliminated. The essence of this technique consists in the employment, during the vacuum arc remelting process, of electrodes produced by powder metallurgy on the basis of carbonyl nickel powder. Further improvement in metal quality is provided by the electron-beam remelting of nickel alloys, which has very recently been developed. 6 tables.

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USSR

UDC 669.295.5'71'296'787.018.29(088.8)

KORNILOV, I. I., VAVILOVA, V. V., ANOSHKIN, N. F., FATKULLINA, L. P., and PERADZE, T. A.

"Titanium-Base Alloy"

USSR Authors' Certificate No 298677, Cl. C 22c 15/00, filed 29 Dec 69, published 12 May 71 (from RZh-Metallurgiya, No 1, Jan 72, Abstract No 1I755P by S. Kalabukhova)

Translation: A new Ti alloy with elevated strength properties is suggested. The Ti-base alloy containing Al and Zr as alloying additions is strengthened by the introduction of small quantities of O. The alloy contains (in %) Al 2-3, Zr 4-5, O 0.3-0.5, Ti the remainder. Mechanical properties of the alloy:

σ_β (20°) 90-120 kg/mm^2, σ_τ 85-115 kg/mm^2, δ 10-25%, ψ 30-52%;

σ_β (500°) 40-45 kg/mm^2, σ_τ 30-35 kg/mm^2, δ 17-20%, ψ 46-48%.

The alloy can be employed as a construction material. Semifinished products such as bars, sheets, and forgings can be made from it.

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USSR UDC 632.95

KHANNANOV, T. M., FATKULLINA, N. S., KULAKOV, V. N., LOZBEN', I. F., GOLUBEVA, V. A., and TROPIN, I. V.

"Synthesis of α-(Dimethylnaphthyl)-methylcarbamates From Petroleum Raw Material"

Tr. NII neftekhim. proiz-va (Works of the Scientific Research Institute of the Petrochemical Industry), 1970, vyp. 2, pp 84-86 (from RZh-Khimiya, No 3, 10 Feb 71, Abstract No 3N533)

Translation: The starting material used for synthesis of alpha-dimethylnaphthyl methylcarbamates is 2,6-dimethylnaphthalene and dimethylnaphthalene concentrates prepared from a narrow light gas-oil fraction by catalytic cracking and sulfonated with H_2SO_4 or chlorosulfonic acid. The resultant sodium sulfonates are subjected to alkaline fusion with excess KOH at 280-310°C. Dimethyl-alpha-naphthols are converted by a conventional method to the corresponding methylcarbamates: α-2,6-dimethylnaphthyl methylcarbamate, boiling point -- 134-6°C; α-dimethylnaphthyl methylcarbamate, boiling point -- 158-68°C/5-6. Preliminary tests of both specimens showed that they are close to Sevin in their biological activity.

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USSR

UDC: 547.26'118

YELISEYENOKOV, V. N., PUDOVIK, A. N., FATTAKHOV, S. G., and SERKINA, N. A., Kazan, Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Academy of Sciences USSR

"Reaction of Amidophosphites With Ammonium Salts of Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 2, Feb 70, p 498

Abstract: The authors report finding that reactions of amidophosphites with amine hydrochlorides and salts of carboxylic and phosphorus- containing acids are reversible and proceed according to the equation

$$\rangle P{-}NR_2 + B \cdot HX \rightleftarrows \rangle P{-}X + B + HNR_2$$

B = amine; X = Hlg, Ac, P(O)O and P(S)O; R = Alk.

The authors regard the results as important for eludicating the mechanism involved in the phosphorylation of amines and alcohols with amidophosphites, and the question will be considered in a special article.

1/1

1/2 016 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--REACTION OF AMIDOPHOSPHITES WITH AMMONIUM SALTS OF ACIDS -U-

AUTHOR-(04)-YELISEYENKOV, V.N., PUDOVIK, A.N., FATTAKHOV, S.G., SERKINA, N.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(2) 498

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--AMINE DERIVATIVE, AMMONIUM SALT, HYDROGEN CHLORIDE, ORGANIC PHOSPHORUS COMPOUND, TRIETHYLAMINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1570 STEP NO--UR/0079/70/040/002/0498/0498

CIRC ACCESSION NO--AP0112564

UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--020CT70

CIRC ACCESSION NO--AP0112564

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MIXING 12.4 G P(NET SUB2) SUB3 (I) AND 6.9 G ET SUB3 N.HCL AT 80-90DEGREES IN VACUO (WATER PUMP) GAVE 53PERCENT (ET SUB2 N) SUB2 PCL, B SUB0.02 60DEGREES, N PRIME20 SUBD 1.4900; SIMILARLY 17.35 G I AND 7.7 G ET SUB2 NH.HCL GAVE ET SUB2 NH AND 61PERCENT (ET SUB2 N) SUB2 PCL. AT 40DEGREES, 12.3 G I AND 10.6 G ETMEP(S)CH.ET SUB2 NH GAVE 100PERCENT ET SUB2 NH AND 61PERCENT (ETSUB2 N) SUB2 PCP(S)MEET, B SUB0.007 82-3DEGREES, D PRIME20 1.0368, N PRIME20 SUBD 1.4890. SIMILARLY, 8.5 G ACOH.ET SUB3 N AND 13.1 G (ET SUB2 N)P-(OBU) SUB2 GAVE A MIXT. CONTG. 6.7 G (BEO) SUB2 PHO, 0.9 G (BUO) SUB2 POAC, AND 3.8 G ACNET SUB2. THUS, REACTION OF P(III) AMIDES WITH AMINE SALTS IS REVERSIBLE, AND REMOVAL OF THE AMINE AS FORMED MAY BE USED TO DISPLACE THE EQUIL. IN THE DIRECTION OF FORMATION OF PRODUCTS SHOWN ABOVE BY REMOVAL OF R SUB2 NH.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--ALKYLATION OF PHENOL BY A PETROLEUM DISTILLATE OBTAINED FROM BAKU RAW MATERIAL IN THE PRESENCE OF A KU-2 ION EXCHANGE RESIN -U-

AUTHOR-(04)-FATULLAYEV, A.N., GADZHIYEVA, Z.K., GSANOV, D.G., RZAYEV, R.G.

COUNTRY OF INFO--USSR

SOURCE--AZERB. NEFT. KHOZ. 1970, (1), 35-6

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--LUBRICATING OIL, LUBRICANT ADDITIVE, PHENOL, ALKYLATION, CRUDE OIL, PETROLEUM DEPOSIT, GEOGRAPHIC LOCATION, ION EXCHANGE RESIN/(U)KU2 ION EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/2070 STEP NO--UR/0487/70/000/001/0035/0036

CIRC ACCESSION NO--AP0127443

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0127443

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE OPTIMUM ALKYLPHENOL YIELDS (45PERCENT) WERE OBTAINED WHEN CRUDE PHENOL (I) WAS CONTINUOUSLY ALKYLATED AT 140DEGREES WITH 2 VOLS. (BASED ON I) OF A S FREE PETROLEUM DISTILLATE (INITIAL B.P. 75DEGREES, 75PERCENT DISTD. AT 127DEGREES, FINAL B.P. 180DEGREES, D. 0.7420) ON A COLUMN OF ION EXCHANGE RESIN KU-2 IN NA FORM. THE UNREACTED PETROLEUM DISTILLATE WAS RECOVERED PRACTICALLY UNCHANGED. THE ALKYLPHENOL HAD SIMILAR PROPERTIES TO THE STD. LUBRICATING OIL ADDITIVE PRODUCED BY ALKYLATING I IN THE PRESENCE OF PHSO SUB3 H.

UNCLASSIFIED

USSR

UDC 539.216.2:669.24.26

MOVCHAN, B. A., USHAKOVA, S. Ye., FAT'YANOV, V. M., and TRONOV, L. P., Kiev, Kursk

"Investigation of the Structure and Some Properties of Ni-Cr Vacuum Condensates"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 6, Nov-Dec 72, pp 56-59

Abstract: Electron-beam-remelted NP-2 nickel and ERKh galvanic chromium were vaporized from water-cooled copper crucibles with their vapors condensed on glass samples suspended 250 mm above the crucibles. The condensates were then tested for microhardness, bonding strength, and electrical resistance. Test results showed that the structure of the vacuum-deposited condensates corresponds to the Ni-Cr phase diagram; specific resistance depends on chemical composition, condensate thickness, and substrate temperature; microhardness varies in relation to chemical composition and substrate temperature; the condensates have good thermal stability of electrical resistance at a substrate temperature of 500°C; and the condensate has satisfactory adhesion with the glass substrate at a substrate temperature 350-500°C. It was noted that the thicker the condensate the less adhesion it has with the substrate, and as substrate temperature is increased the condensate

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002200730008-9"

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MOVCHAN, B. A., et al., Fizika i Khimiya Obrabotki Materialov, No 6, Nov-Dec 72, pp 56-59

acquires better bondability and stability up to 500°C, after which the magnitudes of the properties begin to drop off. Two figures, 8 bibliographic references.

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USSR UDC 681.3.06:51

BIKULOV, E. M., FATYKHOVA, I. M.

"The Problem of Ordering of a Mass of Recordings"

Tr. N.-i. i Proyektn. In-ta po Vnedreniyu Vychisl. Tekhn. v Nar. Kh-vo [Works of Scientific Research and Planning Institute for Introduction of Computer Equipment to the Economy], No 5, 1970, pp 153-161, (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V772 by V. Mikheyev).

Translation: An estimate is presented of the length of a file of recordings beginning with which data should be ordered before performing search procedures in the file. It is assumed that ordering is performed according to the Shell algorithm with subsequent dual-path merging, and search in the ordered file is performed by sequential checking.

FAUSHKIN YE M UNCLASSIFIED PROCESSING DATE--03JUL70

TITLE--PREPARATION OF ORGANOSILICON POLYMERS WITH TRIPLE BONDS IN THE CHAIN -U-

AUTHOR--SHURCV, V.A., FAUSHKIN, YE.M., LUNIN, A.F.

34
5
31

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(2), 101-2

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANOSILICON COMPOUND, POLYMER, POLYCONDENSATION, ORGANOSODIUM COMPOUND, IR SPECTRUM, CHEMICAL BONDING, UNSATURATED HYDROCARBON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1980/0601 STEP NO--UR/0460/70/012/002/0101/0102

CIRC ACCESSION NO--AP0044834

Acc. Nr. AP0048834 Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code 4R0460

90899p **Preparation of organosilicon polymers with triple bonds in the chain.** Shumov, V. N.; Paushkin, Ya. M.; Lunin, A. F. (USSR). *Vysokomol. Soedin., Ser. B* 1970, 12(2), 101-2 (Russ). The title polymers (I) were prepd. by polycondensation of Me_2SiCl_2 with NaC:CNa in hexadecane for 10 hr at 200-90° under Ar. The max. yield (52%) of I was obtained at 290°. I were brown powders, partially sol. in PhMe and $HCONMe_2$, and infusible ≤350°. I obtained at 290° contained C 58.25, H 8.36, and Si 24.48%. The triple bond was not obsd. in the ir spectrum due to symmetry and pseudosymmetry. The sp. resistance of I obtained at 200°, and 250° and 290° was 3×10^{10} and 1.6×10^{10} ohm cm, resp. DBJR

REEL/FRAME
19800601

USSR

UDC 577.1:615.7/9

FAUSTOV, A. S.

"Problem of the Mechanism of the Toxic Effect on the Organism of Certain Benzene Derivatives"

Tr. Voronezh. med. in-ta (Works of the Voronezh Medical Institute), 1972, No 87, pp 17-19 (from RZh-Biologicheskaya Khimiya, No 10, 1973, Abstract No 10F2111)

Translation: Inhibition of the phagocytic activity of the leucocytes in human blood was observed under the conditions of toluene (I) and styrene (II) intoxication. The aldolase (III) and alkaline phosphatase (IV) contents in the leucocytes in the case of chronic poisoning of animals with I (concentration 0.5 mg/liter) increased during the first two months, and then it returned to the initial level. The amount of peroxylase (V) in the neutrophils of the animals blood decreased gradually under the same conditions. It is proposed that V participates in the oxidation of benzene and its derivatives. The histochemical analyses of the enzymes in the neutrophils of the blood of industrial workers subjected to the toxic effect of II indicated an increase in II and IV and a decrease in V. A reduction in the glycogen (VI) in the leucocytes

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FAUSTOV, A. S., Works of the Voronezh Medical Institute, 1972, No 87, pp 17-19

was observed in parallel. Intoxication with I and II leads to significant changes in the histochemical structure of the formal elements of the blood. The disturbance of the intracellular composition of the neutrofils (a reduction in VI and V and an increase in III and IV) had an effect on their functional activity.

2/2

1/2 011 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--QUASIPOTENTIAL METHOD IN THE BOUND STATE PROBLEM -U-

AUTHOR--FAUSTOV, R.

COUNTRY OF INFO--USSR

SOURCE--INP-681, PP 81-101

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ELASTIC SCATTERING, SCATTERING AMPLITUDE, SCATTERING MATRIX, QUANTUM ELECTRODYNAMICS, NUCLEAR ENERGY LEVEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/1758 STEP NO--UR/0000/70/000/000/0081/0101

CIRC ACCESSION NO--AT0054596
UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AT0054596

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE QUASIPOTENTIAL EQUATION, WHICH IS USED FOR THE ELASTIC SCATTERING AMPLITUDE AT HIGH ENERGIES, LOCAL CURRENTS OF COMPOSITE PARTICLES, AND ENERGY LEVELS OF HYDROGEN LIKE SYSTEMS IN QUANTUM ELECTRODYNAMICS, IS DISCUSSED. GENERAL PROPERTIES OF THIS EQUATION AND BOUND STATE MATRIX ELEMENTS OF LOCAL OPERATORS ARE CONSIDERED. FACILITY: JOINT INST. FOR NUCLEAR RESEARCH, DUBNA USSR.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--QUASIPOTENTIAL METHOD IN THE BOUND STATE PROBLEM -U-

AUTHOR--FAUSTOV, R.N.

COUNTRY OF INFO--USSR

SOURCE--TEORETICHESKAYA I MATEMATICHESKAYA FIZIKA, 1970, VOL 3, NR 2, P 240-254

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SPIN SYSTEM, PARTICLE INTERACTION, WAVE FUNCTION, MATRIX ELEMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0669 STEP NO--UR/0646/70/003/002/0240/0254

CIRC ACCESSION NO--AP0129834

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0129834
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE GENERAL PROPERTIES ARE CONSIDERED OF THE QUASIPOTNETIAL EQUATION FOR THE WAVE FUNCTION OF THE BOUND SYSTEM OF PARTICLES WITH ARBITRARY SPINS. THE NORMALIZATION AND ORTHOGONALITY CONDITIONS FOR THESE WAVE FUNCTIONS ARE OBTAINED, AND THE MATRIX ELEMENTS OF LOCAL OPERATORS BETWEEN BOUND STATES ARE INVESTIGATED. FACILITY: OB'YEDINENNYY INSTITUT YADERNYKH ISSLEDOVANIY.

UNCLASSIFIED

Acc. Nr: AP0049799 Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code: 4R0138

101593n **Determining the gas permeability of rubber goods.** Gaziev, G. A.; Barkov, A. S.; Sotnikov, E. E.; Faustova, D. G.; Gus'kova, N. J.; Reitlinger, S. A. (Inst. Biofiz., Moscow, USSR). *Kauch. Rezina* 1970, 29(1), 50–2 (Russ). Gas chromatog. was used to det. the permeability to N, H, and CO_2 of polychloroprene (I), natural rubber (II), or containers made of I or II bonded with adhesive SV-1. The method is suggested for testing the quality of bonded joints between plastics. CPJR

REEL/FRAME 19801721

USSR

UDC 616.8-057

FAVERMAN, Ya. S. Bel'tsy Republic Hospital

"Damage to the Nervous System of Furriers"

Kishinev, Zdravookhraneniye, No 3, May/Jun 70, pp 41-43

Abstract: For a number of years, 215 furriers suffering from various disturbances of the nervous system including the following were studied: asthenia, malfunction of the autonomic nervous system, vascular disorders, emotional depression alternating with irritability, disturbed sleep, diffuse pain, chills alternating with subfebrile states, cardiac arrhythmias, loss of consciousness, disturbed endocrine balance, disturbed metabolism, obesity, loss of weight, irregularities in the menstrual cycle, and diuresis without glucosuria. The common agent to which all of these workers were exposed was the fur dye urosol (para-phenylenediamine). The closer the contact with this dye, and the longer the exposure to it, the more severe were the pathological syndromes. On the basis of laboratory tests and other considerations, it was concluded that this disease is a toxic-allergic pathology of the diencephalon.

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1/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--CALCULATION OF SCATTERED RADIATION IN X RAY SPECTROGRAPHIC FLUORESCENT ANALYSIS -U-

AUTHOR--FAVINSKIY, I.YA.

F

COUNTRY OF INFO--USSR

SOURCE--ZAVOD. LAB. 1970, 36(2), 169-72

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--SPECTROGRAPHIC ANALYSIS, X RAY SPECTROSCOPY, FLUORESCENCE SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1843 STEP NO--UR/0032/70/036/002/0169/0172

CIRC ACCESSION NO--AP0118807

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0118807

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE WT. CONCN., C SUBX, OF AN ANALYZED ELEMENT CAN BE CALCD. FROM: C SUBX EQUALS C SUBO C SUBO PRIME (P MINUS 1)-(PC SUBO MINUS C SUBO PRIME), WHERE C SUBO AND C SUBO PRIME ARE THE CONCNS. OF THE ELEMENT IN THE EXTERNAL AND INTERNAL STDS., RESP., P IS EQUAL TO K SUBO-K SUBO PRIME, WHERE K SUBO EQUALS (MU SUBM MINUS MU SUBN)-MU SUBN, K SUBO PRIME EQUALS (Z SUBM MINUS Z SUBN)-Z SUBN, AND MU SUBM, MU SUBN, Z SUBM, AND Z SUBN ARE THE MASS COEFFS. AND AT. NOS. OF THE INTERFERING ELEMENT AND THE FILLER, RESP. BY USING THIS EQUATION FOR THE EVALUATION OF ANAL. OF A TERNARY MIXT. OF CUO, FE SUB2 O SUB3, AND SIO SUB2, THE RELATIVE MEAN ERROR WAS 2.8PERCENT, WHILE WITH THE USE OF AN INTERNAL STD. IT WAS 11PERCENT. THE INFLUENCE OF THE FILLER IS ALMOST ELIMINATED, AND THE METHOD IS SUITABLE FOR THE ANAL. OF SAMPLES WITH A STD. QUAL. COMPN. FACILITY: BALKHASH. GORNO-MET. KOMB., BALKHASH, USSR.

UNCLASSIFIED

USSR

UDC 621.373.039.7

KURBATOV, L.N., KOZINA, G.S., FAVORIN, V.N., BATALINA, M.a., BIBIKOV, YE.V., VLASOV, A.N., DEMIDOV, S.S.

"Some Characteristics Of Small-Sized Pulsed Laser With Electron Excitation"

Radiotekhnika i elektronika, Vol XVII, No 6, June 1972, pp 1240-1245

Abstract: The principal characteristics are presented of a small-sized electron-beam pulsed laser with a high radiated power. Feasible types of laser targets are discussed. The construction is shown of a complex multielement target with passive regions. Graphs are shown of 1) The dependence of the radiated power of a single-layer target on the power of the exciting electron beam; 2) The dependence of the radiated power of a multilayer target ("cake") on the power of the electron beam; and 3) The dependence of the radiated power on the pulse recurrence frequency of the exciting electrons for a "cake" target. A graph is also shown of the angular distribution of the emission of single-layer and multilayer targets in a vertical plane coincident from the direction of the electrons and in a horizontal plane coincident from the bombarded surface of the crystal. The authors thank N.A.Iofis, Ye.D. Naumenko, A.I.Soloveychik, I.Ya. Gol'dshteyn, and S.S. Shakhidzhanov for valuable consultations and aid in the work. 8 fig. 9 ref. Received by editors, 30 May 1971.

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USSR

UDC 617.735+617.721.61-085.849.19-092.9

LINNIK, L. A., Candidate of Medical Sciences, and FAVORIN, V. N. and PASHKOVA, V. V., Engineers, Odessa Scientific Research Institute of Eye Diseases and Tissue Therapy imeni V. P. Filatov

"Effect of Irradiation by Helium-Neon and Argon Gas Lasers on Eye Tissues and Prospects of Their Utilization in Ophthalmology"

Odessa, Oftal'mologicheskiy Zhurnal, Vol 26, No 6, 1971, pp 422-426

Abstract: Pigment variety rabbits were used in two series of experiments conducted to determine the effect of helium-neon and argon gas radiation on eye tissues. Energy doses not exceeding 0.5 milliwatts were used in series 1 of the experiments. The animals of this series were divided into two groups, with group 1 irradiated with helium-neon light in the form of a single beam, and group 2 -- with a diffused light, both directed toward the fundus oculi. Half of the animals in each group were irradiated respectively for 30 and 60 minutes. Prior to the experiments all of the animals were given 2 ml of a 1% solution of morphine intramuscularly. In the course of the experiments the eyes were irradiated with Ringer-Locke solution in order to reduce damage to the corneal membrane. It was found that a single application of the beam for 1/2

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LINNIK, L. A., et al., Oftal'mologicheskiy Zhurnal, Vol 26, No 6, 1971, pp 422-426

a period of 30 minutes causes no permanent changes in the eye tissues. Repeated applications negatively affect the retinal membrane and the small vessels of the vascular system. The negative effect of the beam is more pronounced in the animals exposed to irradiation for a period of 60 minutes. Irradiation with the diffused light induces damages which are less manifested than those caused by the beam of light. The effect of argon on eye tissues was determined in the second series of the experiments. Energy doses within the range of 10-300 milliwatts were used. It was found that argon has pronounced coagulating properties when applied in doses of 25-45 milliwatts. In larger dosas and particularly in doses of 100 or more milliwatts it causes considerable damage to eye tissues such as cell destruction, dilated vascular membranes, and edema of the retinal membrane.

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USSR

UDC 543.42

TRUKHANENKO, E. M., PANFILOVA, L. I., FAVORIN, V. N.

"Spectral Method of Measurement of Concentrations of Components in Helium-Neon Gas Mixture in Sealed Tube"

Minsk, Zhurnal Prikladnoy Spektroskopii, No 4, Apr 71, pp 614-618.

Abstract: A method is described for measuring the concentrations of helium and neon in a sealed tube in the range of change of total pressure of the mixture corrected to room temperature of 0.4-3 torr with ratios of helium to neon concentration of 3-10. The accuracy of the method and conditions of its application are studied. Some results of measurements of concentrations of helium and neon in sealed tubes are presented. The method is based on selection of several lines of neon and helium and determination of combinations of intensities of various lines such that the intensity functions are monotonic, while the distance between them in the graph scale selected is significantly greater than the accuracy of measurement.

Acc. Nr: AP0044201 F Ref. Code: UR 0016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, 1970, Nr 2, pp 95-100

EPIDEMIOLOGICAL ANALYSIS OF OUTBREAKS OF MENINGOCOCCUS INFECTION REPORT I

Favorova, L. A.; Mironova, T. K.; Margolina, M. S.; Pokrovskiy, V. I.; Vengerov, Yu. Ya.; Kostyukova, N. N.; Ignatov, Yu. I.

The authors present materials concerning epidemiological and microbiological characteristics of outbreaks of meningococcus infection which occurred in 1967—1968 against the background of prolonged epidemiological welfare. The outbreaks, characterized by individual cases of the disease, widespread nasopharyngitis and carrier state, had a number of characteristic epidemiological signs (automnospring seasonal prevalence, the patients' age range — from 12 to 20 years, and marked «nidality» of meningitis cases).

Strains of meningococci isolated from carriers differed in serological respect: along with types A, B and C there occurred many nonagglutinating strains, and also polyagglutinable and spontaneously agglutinating cultures.

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REEL/FRAME 19770687 DI

Acc. Nr: AP0043922 F Ref. Code: UR 0016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, 1970, Nr 2, pp 100-104

EPIDEMIOLOGICAL OBSERVATIONS OVER REINFECTION OF DIPHTHERIA CARRIERS. REPORT IX

V. I. Trifonov, L. A. Favorova, L. A. Gukasyan

It was demonstrated in this work that, along with undoubtful cases of reinfection (with diphtheria bacilli of other types) there may occur a repeated infection with the causative agents of the same type (in 6.1% of the cases). The possibility of repeated infection primarily depended on the presence in the collective body of carriers of corresponding types of diphtheria bacilli. Conditions for reinfection failed to differ from conditions of infection, and the course of reinfection — from the course of previous carrier state. The duration of reinfection course directly depended on the number of diptheria bacilli in the nasopharynx and on the extent of its affection.

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REEL/FRAME
19770348

6 DI

Acc. Nr: AP0036828 Ref. Code: UR 0016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, 1970, Nr 1, pp 117-122

DYNAMICS OF ANTITOXIC IMMUNITY IN DIPHTHERIA CARRIERS IN COLLECTIVE BODIES

N. N. Kostyukova L. A. Favorova, I. L. Genis

The authors present the results of determination of diphtheria toxoid titre in 218 children from 4 boarding schools, 69 of these were carriers of toxigenic diphtheria bacilli. The average antitoxin titre in these carriers was 2.0 AU/ml, considerably exceeding that in noncarriers of the same collective bodies (0.3 AU/ml). Repeated examination of 123 children in one and a half to two months (53 carriers and 70 noncarriers) demonstrated a rise and a fall of toxoid titre in the same number of carriers (20%). More prolonged observation of 36 carriers showed in the majority a rise of antitoxin, accompanied by a subsequent reduction, or only a fall of the titres. Elevation was seen mostly in the carriers with a low initial titre (<2AU/ml) of diphtheria antitoxin, and a fall — in the carriers with its higher level (2,4, 10 AU/ml). Consequently, the carrier state of toxigenic diphtheria bacilli was accompanied by increased antitoxin titre, which fell one to two months after elimination of diphtheria bacilli.

D. n.

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USSR F UDC: 616.981.232-036.22-616.831.9-022-022.7-036.22

FAVOROVA, L.A., MIRONOVA, T.K., MARGOLINA, M.S., POKROVSKIY, V.I., VENGEROV, YU.YA., KOSTYUKOVA, N.N., AND IGNATOV, YU.I., Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR, and Central Institute of Epidemiology

"Epidemiological Analysis of Outbreaks of Epidemic Cerebrospinal Meningitis Report!"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 2, 1970, pp 95-100

Abstract: The incidence of cerebrospinal meningitis in the Soviet Union dropped over 25 years ago to a very low level and stabilized. Only isolated cases were reported until 1967-1968, when minor epidemics of the disease occurred in a number of inhabited places. These outbreaks had a number of features in common: frequency of mostly asymptomatic nasopharyngitis not detected by physicians, prevalence of the carrier state, infection mostly among children 12-20, especially those living under extremely crowded conditions in boarding schools, and occurrence in the fall and spring. The various control measures adopted halted the spread of the disease but not the carrier state, which persisted until the children returned to their homes for holiday vacations.

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Acc. Nr: AP0049123 Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code: UR 0366

99839b Mechanism of the rearrangement of secondary acetylenic alcohols in an acid medium. II. Nature of the carbocation formed during the rearrangement of aliphatic-aromatic acetylenic alcohols. Plekhotkina, M. M.; Karavan, V. S.; Favorskaya, L. A. (Leningrad. Gos. Univ., Leningrad, USSR). *Zh. Org. Khim.* 1970, 6(1), 45–7 (Russ). The isomerization of *p*-$XC_6H_4CH(OH)C{:}CCMe_3$ (I) (X is Cl, H, Me, OMe) to *p*-$XC_6H_4CH{:}CHCOCMe_3$ in acid solns. may involve either *p*-$XC_6H_4CH(OH)CH{:}C^+CMe_3$ (II) or *p*-$XC_6H_4CH(O^+H_2)C{:}CCMe_3$ (IIa). There is only inductive interaction between X and the reactive center in II. In IIa there is, besides inductive interaction, also conjugation between X and O^+H_2. The exptl. rate detn. for I isomerization in dioxane-HCO_2H showed that IIa is the carbocation species actually formed.

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REEL/FRAME
19800929

dr 7

1/2 007 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--ETHYLENIC AND ACETYLENIC KETONES AS DIENOPHILES IN CATALYTIC DIENE SYNTHESIS -U-

AUTHOR-(03)-FAVORSKAYA, I.A., AUVINEN, E.M., PRILUTSKAYA, G.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(4), 720-3

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ALIPHATIC KETONE, CATALYTIC ORGANIC SYNTHESIS, DIENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1963 STEP NO--UR/0366/70/006/004/0720/0723

CIRC ACCESSION NO--AP0125552

UNCLASSIFIED

2/2 007 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0125552

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DIELS ALDER REACTIONS OF H SUB2 C:CMECME:CH SUB2 (I) WITH ETCOCH:CHME, ET 1,CYCLOHEXENYL KETONE, ET 1,CYCLOPENTENYL KETONE, ACCH:CHPH, OR PHCOCH:CHME REQUIRES ONLY CATALYTIC AMTS. OF BF SUB3.ET SUB2 O (II). HOWEVER, TO CONDENSE I WITH PRCOC TRIPLE BOND CH OR BZC TRIPLE BOND CME 1 EQUIV. OF II IS REQUIRED. THE LOWER REACTIVITY OF THESE ACETYLENIC KETONES IS DUE TO THEIR LOWER BASICITY (THAN THAT OF ETHYLENIC KETONES) AND THE RELATIVELY WEAK AFFINITY TOWARDS II. FACILITY: LENINGRAD. GOS. UNIV. IM. ZHDANOVA, LENINGRAD, USSR.

UNCLASSIFIED

USSR UDC: 669.725.046.4

PUTILIN, Yu. M., ROMANOVA, A. D., FAVORSKAYA, L. V.

"Chemical Enrichment of Beryllium Flotation Concentrates by Sulfate-Fluoride Methods"

Tekhnol. Mineral'n. Syr'ya [Technology of Mineral Raw Materials -- Collection of Works], Alma-Ata, 1972, pp 48-57 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 8G187, by G. Svodtseva).

Translation: The effectiveness of sulfatizing as a method of chemical concentration of Be concentrates depends primarily on their mineralogical composition. The effectiveness of the process can be increased by the addition of fluorinating agents (NaF and Na_2SiF_6). Due to the decreased losses of Be, Na_2SiF_6 is more effective. The best indicators are produced for a concentrate containing 3.4% BeO. The improved concentrate contains about 6% BeO. 7 tables.

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USSR

UDC: 669.725.053.4.068

PUTILIN, Yu. M., ROMANOVA, A. D., FAVORSKAYA, L. V.

"Influence of Aluminum on Extraction Separation of Beryllium from Fluoride Solutions"

Tekhnol. Mineral'n. Syr'ya [Technology of Mineral Raw Materials -- Collection of Works], Alma-Ata, 1972, pp 203-207 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1972, Abstract No 8G191, by G. Svodtseva).

Translation: Be was extracted with fatty acids of the C_7-C_9 fraction with a ratio of organic phase to aqueous phase of 1:1. It was established that at the equillibrium pH = 4.0-4.2, Al is extracted to 67%, the degree of extraction of Be varying slightly -- from 3.5 to 6%. The calculation factor for separation of Al and Be at pH 3.5-4.2 is 27-35. In order to study the behavior of Be in the presence of Al, solutions with molar ratios of Al and Be of 0.21:1 to 1.72:1 were used. The extractability of Be increases sharply in the presence of Al. As the molar ratio of Al to Be was increased from 0.21:1 to 1.72:1, the degree of extraction of Be increased from 32 to 68%. With extraction in three stages from a solution of fluorides, 97% of the Al and 83% of the Be go over into the organic phase. It is impossible to separate Al and Be from solutions of their fluorides by extraction with fatty acids. 4 tables, 5 biblio. refs.

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USSR

UDC: 669.295.053.4.068

FAVORSKAYA, L. V., PRESNETSOVA, V. A., KOSHUL'KO, L. P.

"Extraction of Titanium (IV) and Iron (II) by Di-2-Ethylhexylphosphoric Acid"

Tekhnol. Mineral'n. Syr'ya [Technology of Mineral Raw Materials -- Collection of Works], Alma-Ata, 1972, pp 181-187 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 8G214, by G. Svodtseva).

Translation: The influence ov H_2SO_4 and HCl concentration and O:A ratio on extraction of Ti and Fe by di-2-diethylhexylphosphoric acid (D2EHPA) is studied. The extraction curve of Ti passes through a minimum (23%), corresponding to 24% H_2SO_4 and 3n HCl. As the O:A ratio changes during extraction of solutions containing Ti, Fe and Sc, from 1:20 to 1:50, the Sc can be practically completely converted to the organic phase, separating it from accompanying impurities. 3 figures, 3 tables, 12 biblio. refs.

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UDC: 669.725.053.4.068

PUTILIN, Yu. M., ROMANOVA, A. D., FAVORSKAYA, L. V.

"Extraction Method of Separation of Beryllium from Impurities"

Tekhnol. Mineral'n. Syr'ya [Technology of Mineral Raw Materials -- Collection of Works], Alma-Ata, 1972, pp 196-202 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 8G190, by G. Svodtseva).

Translation: The conditions of extraction of Be and the possibility of its separation from the impurities Fe, Al and Mn are studied. Extraction was performed with an O:A ratio of 1:1. The extracting agent used was fatty acid, fraction C_7-C_9. Reextraction was performed with HCl solutions. The extraction of carboxylic acid from the fluoride solutions allows Be to be separated not only from Fe, but from the main mass of the Al as well. As the pH of the solution was increased from 2.5 to 9.1, the extraction of Fe in the reextract increased from 15.2 to 88.3%. The extractability of Al increases to 67.3%, while that of Be remains practically constant to pH = 10, at 5-6%. As the pH is increased to 11, extraction of Al into the reextract increases to 11.5%. Extraction directly from solution, produced by leaching with 5-10% H_2SO_4, does

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Putilin, Yu. M., Romanova, A. D., Favorskaya, L. V., Tekhnol. Mineral'n. Syr'ya, Alma-Ata, 1972, pp 196-202.

not remove the impurities from the Be. In order to convert the Be to the fluoride form, the solution was treated with K by fluoride at pH 4.5 and 9. Purification by this method produced a product containing 80% BeO, with an extraction of 80.5%.

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USSR

UDC: 669.725.053.4.094

PUTILIN, Yu. M., ROMANOVA, A. D., FAVORSKAYA, L. V.

"Acid Methods of Extraction of Beryllium from Phenacite Concentrate"

Tekhnol. Mineral'n. Syr'ya [Technology of Mineral Raw Materials -- Collection of Works], Alma-Ata, 1972, pp 74-82 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 8G189, by G. Svodtseva).

Translation: The process of extraction of Be from phenacite concentrate by treatment with HCl and C_2SO_4 under various conditions was studied. 30% HCl and 93% H_2SO_4 were used for decomposition. Leaching was performed at room temperature and at 92 ± 3°, time varying from 1 to 6 hours. The S:L ratio was varied as a function of acid consumption. It was established that HCl was ineffective. The BeO extraction was 3-4%. The effectiveness of treatment of the concentrates increases if they are roasted at various temperatures for 4 hours. For example, when 18% HCl is used in leaching, the extraction of BeO from a concentrate roasted at 400-800° is 7-11%. When the concentration is sulfatized with 60% H_2SO_4, with a consumption of 150% of the theoretically necessary quantity, the extraction of Be into the solution is 48.4%. Increasing

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Putilin, Yu. M., Romanova, A. D., Favorskaya, L. V., Tekhnol. Mineral'n. Syr'ya, Alma-Ata, 1972, pp 74-82.

the acid consumption to 200% and its concentration to 90% increases extraction of Be to 55.8 and 78.7% respectively. 6 tables.

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1/2 012 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--EXTRACTION OF SCANDIUM FROM CHLORIDE SOLUTIONS USING TRIBUTYL PHOSPHATE -U-

AUTHOR-(05)-FAVORSKAYA, L.V., PRESNETSOVA, V.A., PUTILIN, YU.M., BAYBEKOV, M.K., VOROBYEV, L.I.

COUNTRY OF INFO--USSR

F

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(5), 1158-60

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--SOLVENT EXTRACTION, SCANDIUM, ORGANIC SOLVENT, PHOSPHATE ESTER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0940 STEP NO--UR/0080/70/043/005/1158/1160

CIRC ACCESSION NO--AP0131525

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0131525

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EXTN. OF SC FROM HCL SOLNS. WAS STUDIED IN THE PRESENCE OF FE(II), FE(III), AND OTHER IONS GENERALLY PRESENT WITH SC IN ITS ORES. THE COMPN. OF THE ARTIFICIALLY PREPD. SAMPLE WAS MGCL SUB2 30, FECL SUB2 9, TICL SUB4 2, FECL SUB3 2, KCL PLUS NACL 21, CACL SUB2 3, SC SUB2 O SUB3 0.02, ALCL SUB3 3PERCENT. THE EXTN. WAS WITH 70PERCENT BU SUB3 PO SUB4 SOLN. IN KEROSINE. THE RATIO OF THE ORG. AND AQ. PHASES WAS 1:3. THE MIXT. WAS STIRRED MECH. FOR 5 MIN. THE SC WAS REEXTD. WITH 3:1 ORG. TO WATER PHASE RATIO 1ST WITH 2N HCL AND THEN WITH H SUB2 O. HYDROXIDE WAS PPTD. BY NH SUB3 FROM THE 1ST REEXT. SC CAN BE EFFECTIVELY EXTD. FROM THE ABOVE ARTIFICIALLY PREPD. MIXT. IN A TYPICAL EXPT. THE 1ST REEXTD. PORTION CONTD. 5.3-6PERCENT SC SUB2 O SUB3 AND THE 2ND, 20-30PERCENT SC SUB2 O SUB3. FACILITY: KAZ. NAUCH.-ISSLED. INST. MINER. SYR'YA, ALMA-ATA, USSR.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--EFFECT OF ZIRCONIUM, ALUMINUM, IRON, AND TITANIUM ON THE PRECIPITATION OF SCANDIUM FLUORIDE -U-
AUTHOR-(02)-FAVORSKAYA, L.V., PRESNETSOVA, V.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(5), 985-90

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--CHEMICAL PRECIPITATION, ZIRCONIUM, ALUMINUM, IRON, TITANIUM, SCANDIUM COMPOUND, FLUORIDE, SPECTROPHOTOMETRIC ANALYSIS, METAL COMPLEX COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0952 STEP NO--UR/0080/70/043/005/0985/0990

CIRC ACCESSION NO--AP0131937
UNCLASSIFIED

2/2 025 UNCLASSIFIED PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0131537

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEGREE OF PPTN. OF SCF SUB3 DECREASES IN THE PRESENCE IN THE SOLN. OF SIGNIFICANT AMTS. OF FE, AL, TI, AND ZR. THESE ELEMENTS CAN BE ARRANGED IN THE FOLLOWING ORDER OF DECREASING EFFECT: ZN PRIME4 POSITIVE IS LARGER THAN TI PRIME4 POSITIVE IS LARGER THAN AL PRIME3 POSITIVE IS LARGER THAN FE PRIME3 POSITIVE. SPECTROPHOTOMETRIC INVESTIGATIONS INDICATE THE FORMATION IN THE SOLNS. OF 1:1 COMPDS. CONTG. SC AND ZR AND SC AND AL. AT THE TOTAL CONCN. (SC PRIME3 POSITIVE) PLUS (AL PRIME3 POSITIVE) AND (SC PRIME3 POSITIVE) PLUS (ZR PRIME4 POSITIVE) EQUALS TO 0.8 TIMES 10 PRIME NEGATIVE8 MOLE-L., THE DEGREE OF DISSOCN. OF THE COMPDS. FORMED IS 0.7 ANT 0.4, RESP. THE DECREASE IN THE DEGREE OF PPTN. OF SC FLUORIDES IN THE PRESENCE OF EXTRANEOUS IONS IS CAUSED BY THE FORMATION OF COMPLEX SOL. COMPDS.

FACILITY: KAZ. NAUCH.ISSLED. INST. MINER. SYR'YA, ALMA-ATA, USSR.

UNCLASSIFIED

1/2 028 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--MECHANISM OF A REVERSIBLE FAVORSKII REACTION. II. ALKALINE SPLITTING OF O-DEUTERATED METHYLETHYL, PHENYLETHYNYL, CARBINOL AND
AUTHOR-(04)-SHCHELKUNOV, A.V., MULDAKHMETOV, Z.M., KASHIMZHANOVA, N.A., FAVORSKAYA, I.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(5), 930-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL REACTION MECHANISM, ALKYNE, IR SPECTRUM, SPECTROSCOPIC ANALYSIS, KETONE, ALCOHOL, ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1524 STEP NO--UR/0366/70/006/005/0930/0935

CIRC ACCESSION NO--AP0134496

UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0134998
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF MECOCT WITH HC TRIPLE BOND CPH IN THE PRESENCE OF KOD GAVE HC TRIPLE BOND CPH, ETCOCH SUB2 D (I), AND MECHCOCH SUB2 D (II). THE DISTRIBUTION OF D IN THE PRODUCTS, OBTAINED BY DETD. D. OF WATER FROM THE ANAL. COMBUSTION; AND IR SPECTROSCOPY DEFINE THE PATHWAY. FACILITY: KHIM.-MET. INST., ALMA ATA, USSR.

1/2 008 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--ISOMERIZATION OF ALPHA-(N-(BETA-CYANOETHYL)AMINO) KETONES TO FUNCTIONAL DERIVATIVES OF PYRROLIDINE -U-

AUTHOR-(04)-FAVORSKAYA, T.A., ARTAMONOVA, I.L., DEMETYEVA, L.P., YAKIMOVICH, S.L.

COUNTRY OF INFO--USSR

SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (2), 280-1

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ISOMERIZATION, HETEROCYCLIC NITROGEN COMPOUND, CYANIDE, AMINE, KETONE, PYRROLIDINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/1108 STEP NO--UR/0409/70/000/002/0280/0281

CIRC ACCESSION NO--AP0104506

UNCLASSIFIED

2/2 008 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0104506

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE COMPDS. ME SUB2 CACNR(CH SUB2)SUB2CN (I, R EQUALS H OR ME) GAVE THE CORRESPONDING II AND III WITH ALK. CATALYSTS. THUS, I (R EQUALS H) IN 50 ML ABS. ETOH CONTG. CATALYTIC AMT. KOH WAS HEATED 6 HR AT 35DEGREES TO YIELD 20PERCENT II (R EQUALS H), M. 114-15DEGREES. I (R EQUALS ME) IN 20 ML ETOH AND 0.5 G ETONA ISOMERIZED COMPLETELY IN 2 DAYS TO II (R EQUALS ME), M. 36-7DEGREES AND III (R EQUALS ME), B SUB7 86-7DEGREES, N PRIME20 SUBD 1.4795, D PRIME20 0.9439.

UNCLASSIFIED

USSR UDC: 518:517.9:538.3

DEGTYAREV, L. M, SAMARSKIY, A. A., and FAVORSKIY, A. P.

"Numerical Solution of Interior Steady-State Problems in Electrodynamics"

Moscow, Zhurnal Vychislitel'noy Matematiki i Matematicheskoy Fiziki, Vol. 10, No. 6, November-December 1970, pp 1409-1417

Abstract: This paper considers problems connected with the numerical solution of nonselfconjugate boundary problems which arise in the investigation of electric current fields or temperature fields in a medium with anisotropic electroconductivity and thermoconductivity. By changing the approach, the authors transfer the most important characteristics of the operator in the original problem to the difference operator approximating it. A divergent difference system of second-order accuracy is set up for the divergent, positively defined operator of the original boundary problem and is applied to three different problems. These problems

USSR

DEGTYAREV, L.M., SAMARSKIY, A.A., and FAVORSKIY, A.P., Zhurnal Vychislitel'noy Matematiki i Matematicheskoy Fiziki, Vol 10, No 6, November-December 1970, pp 1409-1417

are: two-dimensional effects in boundary zones of a magnetic field or electrodes; ionization instability in a low-temperature magnetized plasma; and the two-dimensional problem of the introduction of an ultrasonic flow of conducting gas into a magnetic field.
The authors express gratitude to I. V. Fryazinov.

USSR

GUBAREV, A. V., DEGTYAREV, L. M., SAMARSKIY, A. A., FAVORSKIY, A. P.

Nekotoryye dvumernyye effekty sverkhzvukovogo techeniya provodyashchego gaza v neodnorodnom magnitnom pole (Some Two-Dimensional Effects of Supersonic Flow of a Conducting Gas in a Nonuniform Magnetic Field), Moscow, Institute of Applied Mathematics of the USSR Academy of Sciences, 1969, 90 pp (from RZh-Mekhanika, No 11, Nov 70, Abstract No 11B64K)

Translation: This paper contains a study of plane flow of an ideal isotropically conducting gas in a flat channel of constant width with nonconducting walls. The conductivity of the gas is given as a function of temperature, and the viscosity and thermal conductivity are neglected. The magnetic Reynolds number is considered small, and the parameter of magnetohydrodynamic interaction is arbitrary. The external magnetic field included at the initial time is directed perpendicular to the plane of the flow and depends only on the longitudinal coordinate

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USSR

GUBAREV, A. V., Nekotoryye dvumernyye effekty sverkhzvukovogo techeniya provodyashchego gaza v neodnorodnom magnitnom pole, Institute of Applied Mathematics of the USSR Academy of Sciences, 1969, 90 pp

$$H = \begin{cases} H_1 \text{ for } x > 0 \\ H_1 e^{\alpha x} \text{ for } x \leq 0 \end{cases} \quad \text{(entry to the field)}$$

$$H = \begin{cases} H_1 e^{\alpha x} \text{ for } x \geq 0 \\ H_1 \text{ for } x < 0 \end{cases} \quad \text{(exit from the field)}$$

At the initial point in time there is a homogeneous supersonic flow in the channel which is adjusted to two-dimensional. At the entry it remains supersonic with invariant density, temperature and longitudinal velocity. The stationary solutions of the problem were found numerically by the build-up method. The nonstationary problem was actually solved.

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USSR

GUBAREV, A. V., Nekotoryye dvumernyye effekty sverkhzvukovogo techeniya provodyashchego gaza v neodnorodnom magnitnom pole, Institute of Applied Mathematics of the USSR Academy of Sciences, 1969, 90 pp

The possibility of calculating the flow with a shock wave was insured as a result of artificial viscosity. In addition to the numerical solution, an analytical study of the simplified problem of entry is also presented. Numerical graphs illustrating the distribution of the parameter in the logitudinal and transverse directions and also the integral characteristics of the channel are presented. The bibliography has 15 entries.

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USSR

UDC 533.951.8

BUGAREV, A. V., DEGTYAREV, L. M., SAMARSKIY, A. A., Corresponding Member of the Academy of Sciences USSR, FAVORSKIY, A. P.

"Flow of a Supersonic Conducting Gas in an Inhomogeneous Magnetic Field"

Moscow, Doklady Akademii Nauk SSSR, Vol 192, No 3, 1970, pp 520-523

Abstract: A supersonic homogeneous gas flow with finite electrical conductivity in a plane channel of constant width is studied. An external magnetic field is applied at time t = 0. It is assumed that the magnetic Reynolds number is small and that the magnetic field H_z is a given function of the x-coordinate. The nonstationary magnetohydrodynamic equations for the system are given. It is assumed that the flow at entry is supersonic ($M_1 = 2.92$). Previous analytical solutions of this problem have assumed that R_m is much less than 1, but since this is not always valid, it is not assumed here and numerical methods are applied. Changes in the flow parameters at entry into and exit from the magnetic field are graphed and analyzed. The following conclusions are drawn: 1. A considerable rearrangement of the

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APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002200730008-9"

USSR

BUGAREV, A. V., et al, Doklady Akademii Nauk SSSR, Vol 192, No 3, 1970, pp 520-523

supersonic flow and the electric current field can occur under finite values of R_m. 2. The degree of retardation of the flow and its inhomogeneity in the transverse cross section are intensified with an increase in R_m. There is a critical value of R_m which, if exceeded, leads to considerable restructuring of the flow to supersonic. The value of the integral joule heating is established asymptotically with respect to R_m. 3. A smooth change in the magnetic field reduces the degree of retardation of the flow but worsens its homogeneity over the cross section. 4. A considerable pressure and velocity gradient occurs along the wall which can effect flow in the boundary layer.

USSR

UDC 539.67

KEKALO, I. B., KURAKIN, I. S., and FAVSTOV, Yu. K.

"Effect of Heat Treatment on Magneto-elastic Damping in Certain Construction Steels"

Sb. "Vnutrenneye treniye v metallicheskikh materialakh" (Internal Friction in Metallic Materials), Moscow, Izd-vo "Nauka", 1970, pp 178-182

Abstract: It is shown that the vibration decrement of a series of steels at small stress amplitudes is maximal after hardening: at higher amplitudes, it is maximal after high-temperature annealing and normalizing. The effect of heat treatment on the magnetoelastic share of damping is considered. It is shown that the nonmagnetic share of damping decreases with increasing annealing temperature, while the damping share governed by magnetoelastic process increases. A relationship between these damping modes, the coercive force, and hardness is established. 6 figures, 2 references.

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USSR

UDC 669.15-194.3:534-16

KEKALO, I. B., KURAKIN, I. S., FAVSTOV, Yu. K.

"The Effect of Heat Treatment on the Magnetoelastic Losses and Losses of a Nonmagnetic Nature in Steel 30KhGSA in the Case of Mechanical Vibrations"

Kiev, Problemy Prochnosti, No 6, June 1970, pp 54-60

Abstract: Losses in magnetic vibrations brought about by magnetoelastic processes were isolated by means of magnetization. It was shown that the attenuation level in hardened and low-temperature (to 400° C) steel 20KhGSA, which can be used for making parts operating not only under variable loads but also in external magnetic fields of various intensities, was determined principally by losses of a nonmagnetic nature, and after tempering at temperatures in excess of 400° C, by losses brought about by magnetoelastic hysteresis. The relative input of magnetoelastic attenuation at high stresses into the general attenuation level in this steel was calculated after various kinds of heat treatment. Attenuation of a nonmagnetic nature decreases as the tempering temperature increases to 400° C, above this temperature the value of these attenuations is almost constant. The increase of attenuation at high stresses is almost constant. The increase of attenuation at high stresses as a result of tempering at temperatures of 520 and 600° C, as well as after normalizing, is due to an increase of losses for magneticoelastic hysteresis. A correlation is established among the attenuation characteristics, hardness, and the magnetic properties of the investigated steel.

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USSR

UDC: 536.5.081(100):[536.421.4:669.6]

GAVRILOVA, I. S., FAYANS, A. Kh.

"Use of the Solidification Point of Tin to Calibrate Standard Resistance Thermometers"

Tr. Metrol. In-tov. SSSR [Works of Metrological Institutes, USSR], 1972, No 131(191), pp 19-23 (Translated from Referativnyy Zhurnal Metrologiya i Izmeritel'naya Tekhnika, No 12, 1972, Abstract No 12.32.899).

Translation: The possibility is studied of using the solidification point of tin as a primary constant point of the international practical temperature scale (IPTS) in place of the boiling point of water. This replacement results from the increase in accuracy of calibration, simplification of methods and apparatus. One version of apparatus is described, developed for determination of the solidification point of tin. Thanks to the portability of the apparatus, it can be used to support many metrological organizations. A method for calculation of the measured temperature in accordance with IPTS-68 is described. A method is presented for recalculation of the values of resistance of the R_{Sm} thermometer to R_{100} in calibrating the thermometer in accordance with IPTS-68. 1 figure, 7 biblio. refs.

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1/2 006 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--CALCULATIONS OF NUCLEAR MATRIX ELEMENTS FOR BETA DECAY OF RAE -U-

AUTHOR-(02)-FAYANS, S.A., KHODEL, V.A.

COUNTRY OF INFO--USSR

SOURCE--PHYS. LETTERS (NETHERLANDS), VOL. 31B, NO. 3, P. 99-102 (2 FEB. 1970)
DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--MATRIX ELEMENT, BETA DECAY, RADON, CALCULATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1892/0562 STEP NO--NE/0000/70/003/003/0099/0102

CIRC ACCESSION NO--AP0111755
UNCLASSIFIED

2/2 006 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0111755

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NUCLEAR MATRIX ELEMENTS FOR BETA DECAY OF RAE ARE CALCULATED ON THE BASIS OF THE FINITE FERMI SYSTEMS THEORY. FACILITY: I. V. KURCHATOV ATOMIC ENERGY INST., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.316.001.1

FAYBISOVICH, D. L.

"Some Problems of Development of High-Voltage Electric Power Networks in Large and Medium Sized Cities of the Country"

V sb. Tekhn. progress v elektrosnabzh. gorodov (Technical Progress in Electric Power Supply of the Cities -- collection of works), Leningrad, Energiya Press, 1970, pp 137-141 (from RZh-Elektrotekhnika i Energetika, No 4, Apr 71, Abstract No 4 Ye 276)

Translation: The development schemes for the electric power networks of large cities are generalized. Problems of development of municipal networks are noted: increased level of electric loads, unjustified complication of the deep input power supply system, departure from the use of simplified power supply systems, and unplanned development of the high-voltage network. [All-Union State Planning, Surveying and Scientific Research Institute of Power Systems and Electric Power Networks]

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Acc. Nr: AT0050504 Abstracting Service: CHEMICAL ABST. 5-70 Ret. Code: 4R0139

94966f **Effect of temperature, intensity of exciting light, and infrared-bias lighting on the luminescence of FK-[crystallophosphor]-luminophors.** Vorob'ev, K. I.; Gaevskii, A. S.; Korotkov, P. A.; Paldysh, A. N. (Kiev. Gosuniv. im. Shevchenko, Kiev, USSR). *Izv. Vyssh. Ucheb. Zaved., Fiz.* 1970, 13(1), 55–9 (Russ). The luminescence spectrum of the uv-irradiated phosphor FK-4 (88% ZnS–12% CdS-Cu) at 77°K consists of bands at 21,300 (*G*-band) and 17,700 cm^{-1} (*Z*-band). The rise of temp. to 293°K caused a 20–30% or a considerable decrease of intensity of the *Z* or *G* band. At 77°K the duration of lighting of the *G*-band is $\leq 10^{-1}$ sec whereas the *Z*-emission extinguishes according a nonexponential law in >10 sec. When FK-4 was excited at a wavelength of 480–560 nm, the intensity of the *Z*-emission decreased sharply. The phosphor FK-3 (ZnS-Cu) gave bands with max. at 22,300, and 19,200 cm^{-1}. The ratio of the intensities of the bands $\alpha = I_Z/I_G$ is 2 times as great as that of FK-4. One band only, with a max. at 21,800 cm^{-1}, was observed in the phosphor FK-1 (ZnS-Ag). The shape of the band is independent of the temp., and its intensity decreases 20% in going from 77 to 293°K. The quantum yields of luminescence of the *G* and *Z* bands (B_G and B_Z) and the value α depend on the intensity of the exciting light (*L*): A decrease of a factor of 16,000 in *L* caused in FK-4 a 2 or 3 fold increase of B_Z or B_G, resp. As a consequence α changed from 2 to 12 in going from L_∞ to $L_\infty/16{,}500$. When the temp. changed from 77 to

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293°K the dependence of the quantum yield on L increased considerably. When L increased the quenching rate of the Z-emission in the 1st stage increased and after 7–9 sec the quenching rates became the same for various L. Equations for calcg. B_G and B_Z from the resp. L values were derived, and a good agreement with the expt. was obtained. The total quantum yield of the luminescence and α changed considerably when the ir-bias lighting of wavelength 800–2000 nm was applied. The ir-bias lighting on FK-4 caused a greater decrease of B_Z than of B_G. The B_G is changed very little in FK-3, and B_Z is decreased more than in FK-4. The intensity of luminescence decreased in FK-1 at moment of the ir-bias lighting by a factor of ~3 at 77°K and ~1.5 at 293°K. The above effects of the ir-bias lighting were attributed to the rearrangement of the vacancy sites between the Z, G, and quenching centers which caused the decrease of the intensity of luminescence and the change in the distribution of the spectral energy. This rearrangement depends on the compn. of the phosphor and on temp. E. Svatek

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1/3 028 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--EFFECT OF LATTICE STRUCTURE ON THE PHOSPHORESCENCE OF PURE AND DOPED BENZOPHENONE CRYSTALS -U-

AUTHOR-(03)-GOLOVCHENKO, V.P., FAYDYSH, A.N., KOLCHINSKIY, M.Z.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(3), 589-93

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--CRYSTAL LATTICE STRUCTURE, PHOSPHORESCENCE, PHOSPHORESCENT MATERIAL, BENZENE DERIVATIVE, ABSORPTION BAND SPECTRUM, ENERGY BAND STRUCTURE, IMPURITY LEVEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1809 STEP NO--UR/0048/70/034/003/0589/0593

CIRC ACCESSION NO--AP0118774

UNCLASSIFIED

2/3 028 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0118774

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PHOSPHORESCENCE SPECTRA, AND THE DURATION AND QUANTUM YIELDS OF THE PHOSPHORESCENCE OF 5 MODIFICATIONS OF BOTH PURE AND DOPED BENZOPHENONE (I) CRYSTALS WERE MEASURED AT DIFFERENT TEMPS., BUT MOSTLY AT 77DEGREESK. THE CONDITIONS OF THE PREPN. OF EACH MODIFICATION ARE GIVEN. THREE MODIFICATIONS OF PURE I SHOWED STRONG PHOSPHORESCENCE AT 77DEGREESK (MODIFICATION, M.P., FREQUENCY V SUBO OF THE PRIMARY MAX., HALWIDTH OF THE BANDS, QUANTUM YIELD, LIFETIME OF OVERALL AND RADIATION TRIPLET STATE GIVEN); ALPHA, 322DEGREESK, 24,000 CM PRIME NEGATIVE1, 400, 0.09, 7 TIMES 10 PRIME NEGATIVE4, 7.7 TIMES 10 PRIME NEGATIVE3; X, 205DEGREESK, 23,400 CM PRIME NEGATIVE1, 700, 0.6-0.7, 3.4 TIMES 10 PRIME NEGATIVE3, 6 TIMES 10 PRIME NEGATIVE3; Y, 220DEGREESK, 23,400 CM PRIME NEGATIVE1, 500, 0.08,-,-. STRONG TRANSFER OF THE TRIPLET ECITATION ENERGY CAUSING THE ATTENUATION OF PHOSPHORESCENCE OF I AND OCCURRENCE OF SENSITIZED IMPURITY PHOSPHORESCENCE WAS OBSD. IN THE CRYSTALS OF THESE 3 MODIFICATIONS DOPED WITH EITHER NAPHTHALENE OR ALPHA BROMONAPHTHALENE. BOTH PURE AND DOPED CRYSTALS OF THE FURTHER MODIFICATION (BETA, M. 299DEGREESK) SHOWED VERY WEAK PHOSPHORESCENCE WHICH WAS SUPPOSED TO BE BOUND TO INCREASED PROBABILITY OF RADIATIONLESS INTRAMOL. TRANSITION IN BETA I. THE PHOSPHORESCENCE SPECTRUM OF THE MODIFICATION Z I WAS ALSO VERY WEAK AND DID NOT SHOW THE BAND STRUCTURE. ALTHOUGH THE EXACT NATURE OF Z I WAS NOT CLEAR, THE EFFECT OF IMPURITIES WHICH COULD BE FORMED IN THE CONDITIONS OF PREPG. Z I, ON THE PHOSPHORESCENCE WAS CONSIDERED.

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APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002200730008-9"

3/3 028 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0118774

ABSTRACT/EXTRACT--THE OBSD. PHENOMENA WERE GENERALLY EXPLAINED BY THE CHANGES OF THE CRYSTAL LATTICE STRUCTURE EFFECTING THE INTERMOL. INTERACTION. FACILITY: FIZ. FAK., KIEV. GOS. UNIV. IM. SHEVCHENKO, KIEV, USSR.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EFFECT OF THE INTENSITY OF EXCITING LIGHT ON THE INTERACTION OF SINGLET AND TRIPLET EXCITONS WITH IMPURITY MOLECULES IN NAPHTHALENE

AUTHOR-(02)-PRIYMACHEK, V.R., FAYDYSH, A.N.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(3), 582-4

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--LIGHT EXCITATION, EXCITON, NAPHTHALENE, PHOSPHORESCENCE, FLUORESCENCE, ELECTRON TRIPLET STATE, SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0843 STEP NO--UR/0048/70/034/003/0582/0584

CIRC ACCESSION NO--AP0124508

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124508

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE EFFECT IN NAPHTHALENE CRYSTALS CONTG. CHRYSENE (C EQUALS 3.5 TIMES 10 PRIME NEGATIVE5, 1.1 TIMES 10 PRIME NEGATIVE4, 3.5 TIMES 10 PRIME NEGATIVE4, AND 1.1 TIMES 10 PRIME NEGATIVE3 G-CM PRIME3) WAS STUDIED AT 77DEGREESK WITH MAX. INTENSITY OF EXCITING LIGHT L EQUALS 7-8 TIMES 10 PRIME14 PHONONS-CM PRIME2-SEC (LAMBDA EQUALS 313 NM). WITH DECREASING L, THE PHOSPHORESCENCE QUANTUM YIELD, B SUBP, INCREASES STRONGLY, WHILE THAT FOR FLUORESCENCE, B SUBF, INCREASES ONLY SLIGHTLY; AN INTERPRETATION IS GIVEN OF THE SPECTRA. IN THE CASE OF PHOSPHORESCENCE, THE EXPTL. QUANTUM YIELD RATIO BETA SUBP EQUALS B-B SUBO, WHERE B AND B SUBO CORRESPONDS TO A GIVEN L AND A LOW (I.E. IF NONLINEARITY EFFECTS CAN BE NEGLECTED) L SUBO, RESP., OBEYS (WITHIN 20-35PERCENT) THE THEORETICAL RELATION BETA SUBP EQUALS LN(1 PLUS BL) BL, WHERE B IS A PARAMETER DEPENDING ON C. THUS, INTERACTION TAKES PLACE BETWEEN SINGLET AND TRIPLET EXCITONS WITH CHRYSENE MOLS. PREVIOUSLY EXCITED TO A TRIPLET STATE. AT HIGH L AND C, THE FLUORESCENCE CAN BE EXPRESSED AS BETA SUBF YIELDS A SUBS PLUS A SUBT A SUBO, WHERE A SUBS AND A SUBT ARE COEFFS. AND A SUBO IS THE PROBABILITY OF INTERCOMBINATION TRANSITION IN NAPHTHALENE. THE EXPT. GAVE BETA SUBF YIELDS 0.7; IT INDICATES THAT TRIPLET YIELDS EXCITED SINGLET TRANSITION TAKES PLACE WITH A HIGH PROBABILITY.

UNCLASSIFIED

Conferences

USSR

FAYERMAN, B. S., and ZAL'TSMAN, M. YA.

"The Seventh Scientific and Technical Meeting of Laboratory Technical Personnel of Light-Alloy Processing Plants"

Moscow, Zavodskaya Laboratoriya, No 12, 1970, pp 1540-1542

Abstract: This article presents an account of a meeting held in Moscow on 8-9 June, 1970, during which a series of reports was presented on problems of increasing the productivity at metallurgical plants producing light alloys, and on the role of materials in the development of modern aviation. The work was divided into three working sections: 1) methods for determining the composition, structure, and properties of alloys; 2) physical metallurgy and heat treatment of aluminum and magnesium alloys; and 3) physical metallurgy and heat treatment of titanium alloys and steels. Eighty-five persons representing 14 enterprises participated in the work of the first section. Twenty reports were presented on control methods, studies of chemical composition, mechanical properties of semi-finished products, corrosion resistance, and the technology of non-destructive control. The second section involved 105 persons from 14 organizations,

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USSR

FAYERMAN, B. S., and ZAL'TSMAN, M. YA., Zavodskaya Laboratoriya, No 12, 1970, pp 1540-1542

during which 22 reports were presented dealing with phase composition, structural transformations and their effect on alloy properties, structural formation under strain, and the heating effect of technological factors. Seventy-five persons from 12 organizations participated in the work of third section. Its 23 reports dealt with problems of the mechanism and kinetics of phase transformations during annealing, the high rate heating of titanium alloys, the effect of structure on mechanical properties, and the slowing down of the destruction of titanium alloys. It was noted that certain decisions of the Sixth meeting were not fulfilled and some criticism was expressed regarding insufficient results in certain fields. The decisions and recommendations of the conference are outlined.

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UDC 613.6:613.4:615.285.7.012.1

USSR

TREFILOV, V. N., FAYERMAN, I. S., and BORISOVA, Ye. P., Gor'kiy Institute of Labor Hygiene and Occupational Diseases

"Contamination of Work Clothes and Skin of Workers Engaged in the Manufacture of Metaphos and Chlorophos"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 2, 1971, pp 51-53

Abstract: Among workers engaged in the production of the organophosphorus insecticides metaphos and chlorophos, the toxic effects of chronic exposure to small quantities of the pesticides were manifested by inhibition of cholinesterase activity at the end of a shift and appearance of Heinz-Ehrlich bodies in erythrocytes and of para-nitrophenol in the urine. These shifts were equally pronounced in those wearing gas masks (to rule out inhalation as a mode of entry for the insecticides) and in those not wearing masks. The presence of metaphos and chlorophos in washings from the skin and work clothes confirmed that the skin is one of the principal routes through which organophosphorus compounds enter the body.

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USSR UDC 616.322-002.1-079.4:[616.931+616.931-008.97

FAYERMAN, N. N., GALUNINA, Z. I., BULATOVA, N. I., ZAKHAR'YEVSKAYA, N. S., and KULIKOVA, V. V., Gorki Medical Institute and Gorki Institute of Epidemiology and Microbiology

"Differential Diagnosis of Diphtherial Tonsillitis in Carriers of Diphtheria Bacilli"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 9, 1971, pp 42-46

Abstract: In order to confirm the correctness of a diagnosis of "tonsillitis + diphtheria carrier state" and differentiate such tonsillitis from the atypical forms of diphtheria prevalent today, 521 hospitalized patients were kept under clinical observation. The dynamics of the titer of diphtheria antitoxin in the blood were studied and the titers of agglutinins and anti-O-streptolysin were studied. Low antitoxin titers in the acute period of the disease and 30- to 50-fold increase in antitoxin titers during convalescence confirmed the diagnosis of diphtheria. An increase in anti-O-streptolysin in the absence of shifts in the antitoxin titer implied a streptococcal etiology of the tonsillitis. The isolation of diphtheria

USSR

FAYERMAN, N. N., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 9, 1971, pp 42-46

bacilli at this time suggested an accompanying bacteria carrier state. Bacteriological diagnosis of diphtheria can be hastened by the use of human embryo fibroblasts. Diphtheria toxin in nasopharyngeal washings can be detected in such cultures within 24 to 48 hours.

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UDC 536.46:533.6

USSR

KALABUKHOV, G. V., RYZHIK, A. B., YURAMNOV, Yu. A., SIDOROV, V. M., OSIPOV, B. R., FAYERMAN, S. N.

"On the Effect of Reaction-Kinetic Properties of an Inflammable Flow in the Combustion of Aluminum Powders"

V sb. Goreniye i vzryv (Combustion and Explosion -- Collection of Works), Moscow, "Nauka", 1972, pp 204-206 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B969)

Translation: Shock tube studies were made of the combustion of aluminum powder when detonation waves act on it. These waves differ in intensity and chemical composition. It was established that the increase in the detonation rate of the gas mixtures impedes combustion to a greater degree than the detonation temperature is lowered. The positive effect of oxygen, carbon dioxide, and small quantities of nitrogen and argon on the combustion of disperse aluminum is noted. Rarefaction of the stoichiometric mixture of hydrogen and oxygen with light gases (hydrogen and helium) leads to a decrease in the degree of combustion of the powder. 5 ref. Authors' abstract.

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UDC 577.4

USSR

FAYERMAN, VI. YU.

"Relation of Production and Territorial Planning"

V sb. Metody i modeli territorial'n. planir. (Methods and Models of Territorial Planning -- collection of works), vyp.2,Novosibirsk, 1971, pp 29-71 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V528)

No abstract

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Foundry

USSR UDC 669.185.1

NIKIFOROV, B. V., SMOKTIY, V. V., GUL'YEV, G. F., ORLOV, V. S., SIZENKO, A. S., SAFRONOV, YU. YA., KOLESNIK, V. D., NASMAKOV, YU. V., RUDNITSKIY, YA. N., FAYERSHTEYN, A. D., KAGAN, I. I., Institute of Ferrous Metallurgy in Dnepropetrovsk and Krivoy Rog Metallurgical Plant

"Operating Experience With a 55-Ton Converter With Increased Blowing Rate"

Moscow, Stal', No 3, Mar 70, pp 215-218

Abstract: Metallurgists of the Institute of Ferrous Metallurgy in Dnepropetrovsk and Krivoy Rog Metallurgical Plant have developed a technique for smelting in 55-ton converters with the oxygen feed rate almost doubled from 2.8-3 to 5-6 cu m/t per minute. A new-type tuyere is used, the nose of which has two rows of concentrically arranged nozzles with independent oxygen feed to each row. The increased blowing rate improves slag formation. The yield of acceptable product and the degree of improvement in slag formation are determined by the structural characteristics of the noses. Nose No. 5 was found to be

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NIKIFOROV, B. V., et al., Stal', No 3, Mar 70, pp 215-218

the most effective of all those tested. The use of a tuyere with nose No. 5 reduces the blowing time by 40 percent and increases converter productivity by 20.5 percent. Steels K St. 5sp, K St. 3sp, 35GS, K St. 5 ps, K St. 3ps, K St.0m, 08kp, 10kp, K2, K3, KExp., K3ldir, T, and Sv-08A were obtained without any decrease in the yield of acceptable product, deterioration of metal quality, or decrease in refractory lining resistance. In newly designed shops provision should be made for a gas circuit capacity and oxygen feed system sufficient for the operation of converters with a blowing rate of 5-6 cu m/(t. min).

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USSR

UDC: 621.396.6:621.315.612

KOFTELEV, V. T., FAYFER, S. I., TROFIMOV, Ye. A., SHISHKINA, I. P.

"Emissivity of Cermets Based on Aluminum Oxide and Molybdenum"

Elektron. tekhnika. Nauchno-tekhn. sb. Materialy (Electronic Technology. Scientific and Technical Collection. Materials), 1970, vyp. 3, pp 118-119 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V446)

Translation: An investigation was made into the emissivity of pressed and sintered ceramals with composition (16-18) vol.% Mo + 4% $BeO+Al_2O_3$. A check on various methods of measurement showed that the most reliable is the method of the vanishing reference point: a light beam is directed at the surface of the specimen and the reference (MgO); the illuminance or temperature of the specimen, which is heated by the direct passage of current, is selected in such a way that the brightness of the specimen and reference is equal in monochromatic light. The resultant values of the coefficient of 0.81 (±5%) are considerably higher than the coefficients of emission of the components of the ceramal. N. S.

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USSR

UDC 621.385.032.329

KOFTELEV, V.T., FAYFER, S.I., SHISHKINA, I.P., VOROB'YEVA, V.D.

"Electrical Conducting Metalceramic For Cathode Heaters With Heating By Passage Of Current"

Elektron. tekhnika. Nauchno-tekhn. sb. Materialy (Electronic Technology. Scientific-Technical Collection. Materials), 1970, Issue 3, p 121 (from RZh--Elektronika i elektronika, No 1, January 1971, Abstract No 1A72)

Translation: An analysis of the temperature dependences of the electrical resistivity of cermets of various compositions showed that the difference of the character of a cermet with heating by passage of currents and with heating by an exterior source of heat is due to the microlocalized superheating of the cermet at the point of contact of the metal particles, one with another. The contact phenomena in the metalceramic leads to a reduction of the working temperature of the cermet heaters. In order to increase it, it is recommended that a cermet be used with a comparatively small electrical resistivity and refractory metal components. G.B.

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UDC 621.385.032.329

KOFTELEV, V.T., FAYFER, S.I., SHISHKINA, I.P.

"Electrical Conducting Metal Ceramic For Cathode Heaters With Heating By An Exterior Source Of Heat"

Elektron. tekhnika. Nauchno-tekhn. sb. Materialy (Electronic Technology. Scientific-Technical Collection. Materials), 1970, Issue 3, p 122 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1A73)

Translation: The paper investigates the limiting theoretically possible working temperature of cermet heaters for the cathodes of electrovacuum devices. In the case of cermets based on Al_2O_3 with an electrical resistivity of $\sim$ 1 ohm. cm, this temperature equals 1850--1900° C. The theoretically possible working temperature of the cermet heaters can be increased by use of a ceramic phase with high EI [electrical insulating ?] properties and non-interacting components employing metal with a high temperature coefficient, and increasing the porosity of the cermet and the concentration of metal in it. G.B.

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USSR

UDC 669.715'782'721:620.178.74

KOROL'KOV, A. M., PETROVA, E. N., FAYGELSON, B. YU.

"Estimating the Inclination of Cast Aluminum Alloys Toward Brittle Fracture when Testing for Impact Bending"

V sb. Struktura i svoystva lekg. splavov (Structure and Properties of Light Alloys -- collection of works), Moscow, Nauka Press, 1971, pp 88-90 (from RZh-Metallurgiya, No 4, Apr 72, Abstract 4I632)

Translation: A study was made of specimens of the Menage type made from Al4 aluminum alloys of the Al-Si system and Al27-1 aluminum alloy of the Al-Mg system during impact bending on the PSVO-1000 impact tester with oscillographic recording. The work of nucleation of the cracks A_n and the work of propagation of the cracks A_p were determined as functions of the test temperature. The work of destruction of the specimens manufactured from the same alloys with a notch terminating in a fatigue crack during impact bending was determined in parallel. It was demonstrated that the work of fracture in both cases is much less than the impact toughness and although an identical tendency is observed toward variation of both characteristics as a function of the alloy composition, there is no direct correlation. For both alloys, both A_n and A_p drop with a reduction in temperature. A_p drops especially sharply for AL27-1 by comparison with AL4.

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KOROL'KOV, A. M., et al., Struktura i svoystva lekg. splavov, Moscow, Nauka, Press, 1971, pp 88-90

This indicates strong embrittlement of the former. The application of the indicated method permits qualitative estimation of the inclination of the cast aluminum alloys toward brittle fracture when testing for impact bending with respect to A_n and A_p. Three illustrations, 1 table, and a 4-entry bibliography.

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USSR UDC 621.317.616

ALEKSEYEVA, L. I., YEVSEYEV, V. I., YEGOROVA, N. P., FAYGENBLYUM, H. A.

"A Curve-Tracing Instrument"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 2, Jan 71, Author's Certificate No 290467, division H, filed 1 Mar 68, published 22 Dec 70, p 164

Translation: This Author's Certificate introduces a curve-tracing device for finding the frequency response of communications channels by direct comparison on the screen of a cathode ray tube. The device contains a stepped frequency response indicator, a wobbulator, and a module for studying frequency responses. As a distinguishing feature of the patent, in order to automate the process of measuring frequency responses of communications channels and to obtain a stepped reference response, a fixed attenuator is connected between the wobbulator and the channel to be measured, while the comparison circuit contains attenuators connected to the above-mentioned stepped frequency response indicator.

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1/2 012 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--FEATURES OF PRODUCTION TECHNOLOGY AND MECHANISM OF PORE FORMATION IN LIGHT WEIGHT PERLITE GROG CERAMICS -U-

AUTHOR-(05)-FAIN, I.A., KAMENETSKIY, S.P., RABINOVICH, M.A., GRIGORYEV, I.V., MINKOV, D.B.

FAYN I.A.

COUNTRY OF INFO--USSR

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SUBJECT AREAS--MATERIALS

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2/2 012 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0112943

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BLOATING PERLITE SAND IS RECOMMENDED INSTEAD OF FOAM PERLITE. IT ENABLES PRODUCING 2.3-2.4 MORE PRODUCTS. POROSITY OF BLOATING PERLITE IS 0.6-0.75 KG-CM PRIME2. TO PROTECT THE STRUCTURE OF PERLITE A SPECIAL HORIZONTAL MIXER WAS USED.

UNCLASSIFIED

USSR UDC: 51:621:391

FAYN, S. B. and TAUGLIKH, G. L.

"Some Problems of the Structure of a System of Residual Classes in Square Fields"

Tr. Vychisl. tsentra. AN GruzSSR (Transactions of the Computer Center, Academy of Sciences of the Georgian SSR) 11, No 1, 1972, pp 151-171 (from RZh--Matematika, No 8, 1972, Abstract No 8V501)

Translation: The authors examine a system of residual classes in square fields and verify the characteristics of sequences of the form $A = (\alpha_1, \alpha_2, \ldots, \alpha_{i-1}, s_j, \alpha_{i+1}, \ldots, \alpha_n)$, where s_j runs through a system of absolutely least residues, by a simple modulus m_i, when j runs through the values $1,2,\ldots,|R(m_i)|$, ($R(m_i)$ is the norm of the number m_i, and α_k is the figure to the base m_k representing the number A in the system of residual classes).
V. Dyn'kin

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USSR UDC: 51:621:391

FAYN, S. B. and TAUGLIKH, G. L.

"Correcting Error Groups in Binary-Residual Codes"

Tr. Vychisl. tsentra. AN GruzSSR (Transactions of the Computer Center, Academy of Sciences of the Georgian SSR) 11, No 1, 1972, pp 172-185 (from RZh--Matematika, No 8, 1972, Abstract No 8V502)

Translation: The authors indicate the possibility of using the redundance of binary codes in a system of residual classes (SRC). It is asserted that uniform requirements can be presented for the reliability of the binary elements by using the longest SRC digit as a guide. The actual and polynomial SRC are compared, and the correcting possibilities of polynomial codes are investigated.
V. Dyn'kin

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UDC: 51:621.391

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FAYN, S. B., TAUGLIKH, G. L.

"Correction of Group Errors in Binary Residual Codes"

Tr. Vychisl. tsentra AN GruzSSR (Works of the Computing Center of the Academy of Sciences of the Georgian SSR), 1972, 11, No 1, pp 172-185 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V502)

Translation: It is pointed out that better use can be made of the redundancy of binary codes in the system of residual classes. It is stated that homogeneous requirements can be made on the reliability of binary elements by orientation on the rank of the system of residual classes of the greatest length. A comparison is drawn between the real and polynomial systems of residual classes, and the correcting possibilities of polynomial codes are studied. V. Dyn'kin.

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